

## **ABSTRACT**

A digital time domain reflectometer system is provided for performing a measurement process that is useful for calculating a cable length. The measurement process starts with a launch controller periodically generating a sync signal for turning a duration signal on. After a known delay time, the launch controller launches a signal on a cable, and if a reflected signal is detected, a detection circuit turns the duration signal off. A counter counts the number of clock pulses in the duration signal. This system is made more accurate by performing the measurement process multiple times and averaging the results. Using the averaged results, and compensating for the added known delay time, the cable length is calculated. An adaptive threshold may be used to enhance measurement accuracy.